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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/808,055	03/15/2001	Soo Young Lee	LEES3001/EM/6595	3237

7590 06/20/2005
BACON & THOMAS, PLLC
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Alexandria, VA 22314-1176

EXAMINER

LAO, LUN S

ART UNIT	PAPER NUMBER
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2644

DATE MAILED: 06/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/808,055

Applicant(s)

LEE ET AL.

Examiner

Lun-See Lao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5-7 is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Introduction

1. This is response to the amendment filed on 02-22-2005, claims 1-7 have been amended and claims 1-7 are pending.

Drawings

2. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in

the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The driven “ said filter subjecting a mixture of signal and noise that forms the primary input to independent component analysis taking into account secondary or higher statistical characteristics of the noise components to obtain said components of the primary input which are independent of the noise components” (see abstract and specification page 3 lines 7-13) was not supported in the further detail in specification nor in any of the claim.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Jackson et al. (US PAT. 6,151,397).

Consider claim 1, Jackson teaches a method for active noise cancellation using independent component analysis comprising the steps:

using a filter (see fig.8, 742,743) to obtain components a primary input (X1) of an active noise cancellation system which are independent of noise components the secondary input (X2) at the output end in active noise (such as a variety of undesirable background noise) cancellation system (see col.10 line 7-64), and said filter subjecting (21,12) a mixture of signal and noise that forms the primary input (x1) to independent

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component analysis taking into account secondary or higher statistical characteristics of the noise components to obtain said components of the primary input which are independent of the noise components (see col.10 line 7-col. 12 line 45).

Consider claim 2, Jackson teaches the method for active noise cancellation using independent component of a signal cancellation range corresponding to active noise is extended for the system. which acquires many noise signals or mixtures of signal and noise by increasing the number of inputs (see col.10 line 25- col.11 line 14) or outputs of the said active noise cancellation system (see col.11 line 15-col.12 line 18).

Consider claim 3 Jackson teaches the method for active noise cancellation using independent component analysis which is characterized by canceling active noise by including the following steps;

in a cancellation method of active noise (such as a variety of undesirable background noise) cancellation system with a feedback structure (see fig.8),

(a) wherein a zero delay coefficient, $W_{ii}(0)$, scales the data to maximize the information transmitted through the nonlinear function (see col.11 line 45-col.12 line 18),

(b) wherein a delay coefficient, $W_{ii}(k)$, $k \neq 0$, whitens each output from the corresponding input signal temporally (see col.10 line 7-col.11 line 65), and

(c) wherein a coefficient in a feedback cross filter, $W_{ij}(k)$, $i \neq j$, decorrelates each output

$$\Phi(u_i(t)) = - \frac{\frac{\partial P(u_i(t))}{\partial U_i(t)}}{P(u_i(t))}$$

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from all other recovered signal $u_i(t)$, where the said $P(u_i(t))$ approximates the probability density function of estimated source signal $u_i(t)$ (see col.8 line 16-col.10 line 6).

Consider claim 4, Jackson teaches the method for active noise cancellation using independent component of a signal cancellation range corresponding to active noise is extended for the system. which acquires many noise signals or mixtures of signal and noise by increasing the number of inputs (see col.10 line 25- col.11 line 14) or outputs of the said active noise cancellation system (see col.11 line 15-col.12 line 18).

Allowable Subject Matter

6. Claims 5-7 are allowed.

Response to Arguments

7. Applicant's arguments with respect to claim 1-7 have been considered but are moot in view of the new ground(s) of rejection.

8. Regarding applicant's argument that Jackson (397) neither discloses nor suggests an active noise cancellation method (remarks page 7 second paragraph), the examiner response that argument which is not claimed, and thus moot and see the new rejection.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any response to this action should be mailed to:

Mail Stop ____ (explanation, e.g., Amendment or After-final, etc.)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Facsimile responses should be faxed to:

(703) 872-9306

Hand-delivered responses should be brought to:

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lao, Lun-See whose telephone number is (571) 272-7501. The examiner

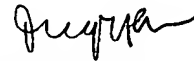
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can normally be reached on Monday-Friday from 8:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz, can be reached on (571) 272-7499.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 whose telephone number is (571) 272-2600.

Lao, Lun-See
Patent Examiner
US Patent and Trademark Office
Knox
571-272-7501



**DUC NGUYEN
PRIMARY EXAMINER**